

***Utah Division of Housing and Community Development***

**DRAFT APPLICATION**

U.S. Department of Housing and Urban Development – Community Planning & Development

National Disaster Resilience Competition

March 9, 2015

Please submit comments to [info@envisionutah.org](mailto:info@envisionutah.org) with the subject line “Disaster Grant”

**EXHIBIT A - EXECUTIVE SUMMARY**

*Utah Division of Housing and Community Development*

ExhibitAExecutiveSummary.pdf

## **EXHIBIT A. EXECUTIVE SUMMARY**

The State of Utah has a complicated relationship with water. In this arid climate, water and safety of Utah's watersheds is a key factor in sustaining communities, agriculture, and the economy. However, water can also create significant hazards in Utah as extreme snowfall and rainfall can trigger events ranging from avalanches to floods and landslides. The watersheds in Utah are the lifeblood that keeps the economy running which effects every aspects of life for Utah's residents. The Weber River Basin Watershed is a geographic area of great concern in that it provides drinking and irrigation water for 21% of Utah's population, provides important environmental habitats and recreational opportunities that drive the economy of Utah

The goal under this Watershed Management Resilience Program application is to leverage a range of investments, including investment of CDBG-NDRC funding, to accomplish integrated watershed management from the headwaters to Ogden City and beyond to the outflow at Great Salt Lake. This integrated management approach can increase long term resilience by making future flooding far less likely and less impactful while bringing a host of other resilience benefits that we have detailed further below. The effects of climate change have been evident in Utah's watersheds not only through flood events but also in forest fires, landslides, drought, and intense storms all of which impact the vital watersheds of Utah and its most vulnerable populations. Climate change shifts will make Utah's relationship with water potentially more challenging, with decreases in the winter snowpack that sustain public water supplies and increases in extreme rainfall events that cause flooding.

Throughout the collaboration process for this application the focus has been on three guiding objectives for resilience that will help meet the unmet recovery needs, provide for public safety and environmental sustainability, promote recreational and economic opportunities and

have the greatest impact on our vulnerable populations. These three objectives include: 1) developing best practices for the watersheds of Utah, 2) furthering safety for social and economic security, 3) adaption and promoting habitat considerations that are low maintenance and ecologically friendly.

A main concept of the proposed project is understanding that what happens upstream happens downstream and that the entire watershed is impacted by the risks of flooding, climate change, wildfire, habitat loss and poor water quality. All of this effects the vulnerable populations of the watershed. Within 2011 flood event over \$10,000,000 in damages occurred and the vulnerable businesses and populations within the MID-URN target area were impacted. This area contains a high concentration of vulnerable racial groups with a 44.7% Hispanic population. At least 61.57% of the households in the target area are at less than 80% of the area median income and the unemployment rate in the target area is 12.65% which is 5.6 points higher than the statewide rate of 7.05%.

Strong partnerships have been developed with state, regional and local partners. We have engaged local business, non-profits, community and recreational groups, and engineers as well as educational leaders to help us coordinate, identify, plan and prepare for better ways to prepare for resiliency. The Watershed Management Resilience Program will guide us through best practices for sustainability and resilience economically, environmentally, and socially. Many of these partners have also help us leverage funds and services to advance the goals of the Program.

**EXHIBIT B – THRESHOLD REQUIREMENTS**

*Utah Division of Housing and Community Development*

ExhibitBThresholdRequirements.pdf

## **EXHIBIT B. THRESHOLD REQUIREMENTS**

**General Section.** The State of Utah Division of Housing and Community Development does/will comply with all applicable requirements of the General Section and meets specific thresholds.

**1. Eligible Applicant.** The applicant is the State of Utah Division of Housing and Community Development (HCD), an eligible applicant.

**2. Eligible County.** Weber County, Utah has been identified as having a major flooding disaster declaration having occurred from April 18 to July 16, 2011.

**3. Most Impacted and Distressed Target Area.** The MID-URN target project area is in Ogden, Utah.

### **Most Impacted Characteristic**

***Environmental Degradation.*** The 2011 flooding event and potential future disaster events threaten the homes and businesses along the Weber River which hampers economic revitalization, health safety and welfare, infrastructure prevents riparian restoration and has limited recreation opportunities in this economically- distressed area. Flow rate data shows that the Weber River experienced 30-year storm conditions in 2011. The River sustained flow rates of 4,900 cfs for from April 18 to July 16; average annual peak flow rates are 2,800 cfs.

**Future Risks.** The State Department of Emergency Management conducted a flood vulnerability analysis in the preparation of the 2014 Utah Hazard Mitigation Plan. This analysis ranked Weber County as the 4<sup>th</sup>-highest in the State in flood vulnerability.

***Hazardous Materials.*** Potential flooding risks include impacts to the local railroad and highway bridges, the railyard and other companies handling hazardous materials adjacent to the river.

Flooding may cause chemicals or hazardous materials to contaminate surface waters which are used for drinking water supply and which flow into the Great Salt Lake affecting water quality and wildlife habitats. These are serious economic and environmental risks that remain because the river has not been restored or made resilient.

*Transportation Risks.* Seven bridges were damaged in the 2011 flood event. These bridges represent critical transportation infrastructure for freight, commuter rail, roads, and pedestrian traffic. Trail systems were also damaged which limited the connectivity of disadvantaged populations with centers of commerce and public transit options.

### **Most Distressed Characteristic**

***Low and Moderate Income Households Impacted.*** The 2011 declared disaster in MID-URN Target area of Ogden City impacted mainly low- and moderate- income households. The 2008-2012 census ACS data for the MID-URN target area shows that the median household income in this census tract is \$34,531 which is only 65% of the U.S. median. This area contains a high concentration of vulnerable racial groups with a 44.7% Hispanic population. **At least 61.57% of the households in the target area are at less than 80% of the area median income.** The unemployment rate in the target area is 12.65% which is 9.25 points higher than the statewide rate of 3.4%.

***Prior Environmental Distress.*** The disaster event impacted EPA-identified brownfield sites and past Superfund sites in Ogden City. A remediated site at the rail yard constrained on one side by the Weber River and on the other side by the Ogden River, experienced significant flooding in 2011 (see photos). Even after the EPA-directed clean up, flooding in this location poses serious risks as hazardous materials are carried by rail in this area and surface contaminants from historic use would enter the Weber River. The West Ogden area, included in the target MID-

URN area, has historic industrial use that has created potentially contaminated sites.

Environmental Site Assessments were completed in 2013 for 15 of these sites using an EPA Brownfields Assessment Grant. Ogden City has made significant efforts to make this area economically sustainable but the high level of uncertainty regarding contamination and potential flooding has discouraged revitalization and growth. The City has made a targeted effort to revitalize this industrial area with its Ogden Business Exchange Project (OBE). OBE is a 51-acre master planned business and industrial location with over 22 buildable acres for sale or lease. The City is transforming this former shipping yard and stock yard area into a vibrant business location for manufacturing, distribution, and light industrial sectors. However, preliminary engineering reports show that this area is still susceptible to flooding damage and threats to potable water and sanitary sewer without repairing the river to accommodate flood flows.

### **Unmet Recovery Need**

***Infrastructure.*** Engineer Damage Assessment Reports estimate the remaining damage to permanent public infrastructure as more than \$8,457,000 which includes damage to diversion structures, seven bridges, pathways, underpasses, sanitary sewer river crossings, and recreation amenities such as the Whitewater Play Park and Serge-Simmons Ballfield Complex.

***Environmental Degradation:*** Damage Assessment Reports completed by professional engineers estimate the remaining environmental degradation unmet recovery need as \$1,958,000. These needs represent the need repairs to damage caused by the 2011 flooding disaster: bank stabilization, bank repair, debris removal, fixing erosion and gravel deposition, and repairing scour to concrete and riprap replacement. These unmet needs still put homes, businesses and infrastructure at risk which creates uncertainty that exacerbates the economic distress in this area and hampers revitalization.



*Unmet Funding Needs.* FEMA and NRCS funding was used to complete some repair work along the Weber River but this funding could only be used to repair back to pre-flood conditions not to create resilience to prevent future flooding damage.

**4. Eligible Activity.** The concept project to make the Weber River watershed and MID-URN target area more resilient includes the following CDBG-eligible activities as identified in Sec. 5305: 03 Construction – Public Facilities and Improvements; 03F Construction – Parks, Recreational Facilities; 03I Construction Flood Drain Improvements; 03L Construction – Sidewalks; 03N Construction Tree Planting; 21C Public Information; and 20 Planning.

**5. Resilience Incorporated.** To create resilience against the risks of climate change, the concept project will implement innovative and holistic solutions that take on a system wide watershed planning and management program through a Watershed Management Resilience Program in the State, Region, and MID-URN target area.

**Watershed Planning.** A concept of the proposed project is the creation of the Utah Watershed Management Resilience Program. What happens upstream happens downstream. The entire watershed is impacted by the risks of flooding, climate change, wildfire, habitat loss and poor water quality. In order to have true resilience in Utah watersheds, state and regional partners will conduct planning efforts to update the 2014 Weber River Restoration Plan to include a hazard mitigation element. This effort will identify the risks, hazard and vulnerabilities specific to the Weber River Watershed and actions that can be taken to increase resilience. The Partners will also collaborate to develop a statewide Watershed Management and Resilience Plan to address risks faced by communities throughout the State.

The flooding of the 2011 disaster event highlighted the need to bring resilience in the impacted areas of Ogden City. The resilience improvements there will be a pilot project for the

Utah Watershed Management Resilience Program wherein other affected communities can build on the success implemented in the MID-URN target area.

**Previous Resilience Achieved.** The concepts and ideas considered to bring resilience to the Weber River will be based on Ogden City's prior success in restoring parts of the Ogden River. The Ogden River experienced similarly high flows in 2011, but no flood damage was incurred in the restored areas due to the channel restoration work completed prior to the flooding event. The area along the Ogden River has also brought about economic revitalization, access to recreational amenities for vulnerable populations, and increased riparian habitat by five times. River Restorations and Ogden City along with dozens of partners worked together to complete the Ogden River project and will apply this experience, and the experience of qualified partners, to bring resilience to the Weber River as well.

**Long Term Commitment.** State, regional and local partners have made long term commitments to increasing resilience. **State Commitments.** The State Department of Emergency Management (DEM) has committed to amending its 2014 Hazard Mitigation Plan to include the risks of climate change in the State. DEM has also committed to contact every county in the State to ensure that they are aware of the new plan and educate them regarding what steps can be taken to improve resilience in their respective areas. The State DEM also commits to presenting legislation to the State Legislature to require local jurisdiction to create and maintain Hazard Mitigation Plans. **Regional Commitments.** Weber County has been pro-active in its pre-disaster mitigation efforts. The County commits to update its 2009 Pre-Disaster Mitigation Plan before the end of 2015 using FEMA PDM funding. The prior plan was broad in its approach as it included other large counties (Davis, Morgan, Tooele and Salt Lake). The new plan will be specific in addressing the needs, risks and hazards occurring in Weber County. **Local**

**Commitments.** Ogden City commits to update its general plan to add a resilient action plan for hazard mitigation element based on the Utah Hazard Mitigation Plan. This will align the State and Local plans. The City has also committed to improve economic resilience in the target MID-URN area by installing the necessary infrastructure to the Ogden Business Exchange area with a goal of having a business located in the OBE by March 2016. Ogden City will also participate with Weber County to update the County's Pre-Disaster Mitigation Plan Update.

**6. Meet a national objective.** This proposal meets the urgent need national objective by responding to the disaster-related impact and will principally benefit low- and moderate-income persons.

**7. Overall benefit.** The project is located entirely within an economically-distressed census tract wherein 61.57% of the households qualify as low- to moderate- income. Therefore, the funds will primarily be used to mitigate against future risks to the target area, enhance their community, provide local recreational opportunities, and encourage economic growth to bring jobs closer to vulnerable populations.

**8. Establish tie-back.** The 2011 flooding caused damage in the MID-URN target area to infrastructure such as utilities, parks, trails, and bridges. It also exacerbated economic distress by affecting LMI persons, impacting businesses along the river, and creating additional uncertainty for businesses to locate in the area. The flooding also brought to light the deficiencies in the hazard mitigation planning and the management of the watershed as a whole. The urgent need for an overall Watershed Management Resilience Plan to address the hazards and risks associated with climate change became apparent during that disaster event.

The concepts and ideas incorporated into the proposed Watershed Management Resilience Program will result in activities that will improve resilience statewide, result in

regional planning coordination, and address the 2011 flooding damage in the MID-URN target area.

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**EXHIBIT C - CAPACITY**

*Utah Division of Housing and Community Development*

ExhibitCCapacity.pdf

## **FACTOR 1 – CAPACITY**

### ***General Management.* The Utah Division of Housing and Community Development (HCD)**

is the specific government agency that will implement and coordinate the Watershed Resilience Management Program and the proposed activities. HCD will provide quality assurance oversight to the project, manage the project funds, facilitate partner coordination, and prepare and submit required reporting.

**Ogden City** with assistance from consultants will provide project implementation under HCD's oversight. They will manage partners in the implementation of project elements such as: design, bidding, construction administration, day-to-day coordination, progress meetings, and public outreach activities.

**Envision Utah** will oversee the Watershed Management planning efforts by bringing together technical experts, water users, stakeholders, municipal officials, and the public.

HCD is capable of managing this project as it continually manages the distribution of all HUD funds throughout the State to subrecipients. The State of Utah has been recognized and awarded for excellence in housing and community development efforts. HCD provides project oversight to a wide variety of projects including capital improvements and infrastructure.

Ogden City is capable of implementing major projects as they have received a number of Federal grants, they are a CDBG entitlement community distributing CDBG funds and overseeing projects in their City. Ogden City also recently completed the redesign of the Ogden River to increase capacity, flood resiliency and stimulate economic revitalization. The proposed Weber River concept project will benefit from this prior, successful experience. The Ogden River Restoration project is similar in scope and scale to the proposed river restoration projects in that it brought together stakeholders, more than 20 different funding partners, and the City

worked with many of the same partners that are collaborating on the proposed concept project. Much of the work took place in distressed, LMI neighborhoods and included extensive public outreach.

**Technical Capacity.** This application is a collaborative effort between the partners shown in the following table with each providing data, background information, project planning, stakeholder consultation, community involvement, and identifying hazards and threats. These partners will continue to provide support throughout the application process and project implementation.

A professional grant writer was contracted with to gather, organize, and compile information from contributing partners.

Each partner brings beneficial capacity to this project. These relationships have been established and the partners have worked together on past projects using Federal funds. They understand how to coordinate with one another. The Watershed Management Resilience Program will require expertise in science, planning, community engagement, finance and implementation. Project partners will work together to meet the concept project needs effectively.

<b>PARTNERS</b>	Comprehensive Planning	Public Works	Data Analysis	Community Engagement	Economic Revitalization	Affordable Housing	Science-based Information	Civil Rights/Fair Housing	Resilient Design	Climate Change Resilience
Housing and Community Development (HCD)	✓		✓	✓	✓	✓		✓		
Utah Department of Emergency Management	✓	✓	✓	✓			✓		✓	
Envision Utah	✓		✓	✓	✓					
Ogden City Public Works and Engineering Dept	✓	✓	✓	✓	✓		✓	✓	✓	

RiverRestoration		✓	✓				✓		✓	✓
The Langdon Group	✓		✓	✓	✓					
State Climatologist, Utah Climate Center			✓				✓	✓		✓
Weber County Engineering	✓	✓	✓	✓			✓		✓	
Ogden Community & Economic Development	✓		✓	✓	✓	✓		✓		
Riverdale City Public Works	✓	✓	✓	✓					✓	
Utah Dept. of Natural Resources			✓				✓		✓	✓
Weber County	✓	✓	✓	✓			✓		✓	
Riverdale City	✓	✓	✓	✓					✓	
West Haven City	✓	✓	✓	✓					✓	
Utah Conservation Corps				✓					✓	✓
J-U-B Engineers Inc.	✓		✓	✓			✓		✓	✓

***Comprehensive Planning, Affordable Housing, Civil Rights and Fair Housing, Economic***

***Revitalization.*** Many of the partners have extensive experience in developing large, metropolitan planning projects, engaging the public and working toward economic revitalization. For example, **Envision Utah** created the Quality Growth Strategy in Utah and partners with local communities to create area-wide or regional comprehensive planning. They participate continually with state and regional planning efforts including the HUD-sponsored Sustainability Communities project – Wasatch 2040. **The Department of Emergency Management (DEM)** administers FEMA funding and guides Hazard Mitigation and Pre-Disaster Mitigation planning efforts statewide.

**HCD** prepares the State’s Annual Consolidated Plan and manages CDBG funding throughout the State to promote the goals of affordable, fair housing and civil rights.

**Ogden City Public Works** has experienced civil engineers and public works personnel familiar with all City infrastructure and with experience in resilient design and community outreach



especially through the recent Ogden River Restoration project. Ogden City often contracts with **J-U-B Engineers, Inc.** for their technical expertise in storm water management and other utility infrastructure. They are familiar with City infrastructure specifically having performed detailed studies of the Ogden and Weber River drainage areas. They also have knowledge of and relationships with many other local municipalities, utility companies, and state, federal and local agencies.

**Weber County, Riverdale City and West Haven City** are local municipalities and regional partners with public works experience and experience in resilient design as they are currently working with FEMA and the NRCS to complete emergency watershed projects to repair damage caused to the Weber River by the 2011 flooding event.

***Data Analysis, Science-based Information, Climate Change Risks.*** Many partners have expertise with data analysis. For scientific data, HCD will partner with the **Robert Gillies, State Climatologist at the Utah Climate Center**. Dr. Gillies will provide data on climate change in Utah as well as climate expertise in the provision and interpretation of climate change information with which to make science-based assessments.

**State DEM** directs programs to assess and address possible future conditions, risks, possible benefits and outcomes including the resilience of projects or programs over their lifetimes.

**RiverRestoration** is a specialty river engineering firm. They planned and designed many aspects of the Ogden River Restoration project; assessed damage from the 2011 flooding and are actively working on 9 other river projects on the Weber River Watershed and its tributaries with a large and well developed partnership of state and local governments, FEMA, NGOs, foundations and community members.

***Resilient Design.*** HCD, Ogden City and its partners will work with RiverRestoration to ensure excellent design quality as was provided on the successful Ogden River Restoration Project. Quality oversight will be performed by the State Hazard Mitigation Officer, Ogden City Engineers and HCD working in collaboration with other partners with the proper expertise. **The Utah Conservation Corps (UCC)** is Utah's largest environmental Americorps program, completing service work on public lands, in communities, and with various organizations throughout the state restoring habitat and trail with volunteer service. UCC will hire disadvantaged youth from the target area and surrounding areas to work on the environmental restoration projects to provide job opportunities and introduce the youth to the environmental field.

***Depth of Partner Experience.*** With multiple areas of expertise, the capabilities of our partners overlap in many areas giving us the depth necessary to continue with the project should a partner drop out. Project funding is being provided by a variety of public and private partners. This project brings together funding from many diverse sources and will still be financially feasible should a partner withdraw support.

***Cost Reasonableness.*** Cost Reasonableness will be determined through a rigorous benefit-cost analysis using reliable documentation and data. The State DEM is highly familiar with FEMA's Hazard Mitigation Cost Effectiveness process as it is regularly utilized to determine funding to subapplicants within the State. The consulting grant writer has experience in successfully completing Benefit-Cost Analyses for U.S. Department of Transportation programs and FEMA project. Ogden City Public Works and Engineering Departments, having completed similar flood resiliency projects on the Ogden River within City limits, understand the level of effort and probable cost necessary to complete such a project. RiverRestorations has completed many

flood resilience projects locally and throughout the country and understand the cost of necessary activities as shown in the Damage Assessment Report.

Envision Utah regularly authors statewide, regional and local plans and understands the effort and costs associated with developing and completing a Watershed Management Resilience Plan.

***Community Engagement.*** Stakeholders were involved early in the framing of the concepts and ideas. Envision Utah (EU) is currently in the midst of a statewide planning initiative called “Your Utah Your Future.” For the past year EU has been meeting with experts on various issues Utahans will face as the population grows and with climate change impacts. One of the issues is disaster resilience. The team consist of over 30 experts from diverse backgrounds that have spent the past year identifying what threats and hazards exist state wide and what strategies the State could employ to minimize the vulnerabilities to those threats and hazards. Based on the input gathered from the team of experts, strategies were presented to the public in the form of an educational survey. Approximately 8,000 Utahans responded to the survey giving their input on these strategies.

HCD continually engages the public in the implementation of public works projects, specifically addressing affected vulnerable populations. Ogden City Public Works, Economic Development and Engineering regularly include public involvement efforts in completing infrastructure and community development projects including working with community leaders, business owners and residents. The City often contracts **with The Langdon Group** to lead this outreach through public meetings, websites, fliers, mailings, and hundreds of door-to-door contacts.

A public hearing has been held regarding the CDBG-NDR application and during the 15-day comment period, HCD collected public feedback on the published portions of the application. These comments were reviewed and summarized to inform the Phase 1 framing process and then incorporated into the application, as applicable.

If the project moves into Phase 2, stakeholders and other entities will be consulted in defining the details of the project in moving forward. Another public hearing will be held to receive input from the public – especially the local, vulnerable populations affected by the disaster events in the MID-URN target area.

Ogden City engaged community and religious leaders and citizen volunteers to mobilize in response to the 2011 flooding disaster. The City was successful with this sort of mobilization on a large scale again in 2014 when it led the “100 Days of Service” effort which brought together groups and volunteers from all over the region to make improvements in Ogden. The City coordinated with more than 54 different groups such as schools, churches, Hispanic community groups, youth groups, Scout troops, environmental groups, homeless services, service organizations and local businesses. The result was more than 560 projects completed totaling more than 84,000 hours of volunteer service. Ogden City will once again reach out to this community network to inform the public of resilience efforts and in implementing the project improvements.

Envision Utah uses interviews, mapping exercises, surveys and other means to hear from residents and uses that information to present different community scenarios based on the information gathered. Residents react to the scenarios and choose the future that best matches their vision. Based on public input, Envision Utah's voluntary recommendations for achieving that vision respect private property rights and are grounded in the realities of the local market.

Local elected officials, along with residents, have the opportunity to implement the public's vision as they best see fit. Any Envision Utah visioning process is overseen by a group of local stakeholders. This diverse group typically includes public officials from local jurisdictions, development professionals, conservationists, media, community leaders, and scientists, among others. The stakeholder group will be witnesses to the process – ensuring that all steps are done in a transparent manner based on sound public input. They will also help ensure that the process represents local values, tests ideas that have some pragmatic grounding, and is communicated in a way that makes sense to residents. The Langdon Group, working with Ogden City personnel, has public involvement experience on a local scale in Ogden neighborhoods and will again engage diverse individuals and groups to find solutions that response to the concerns of the most vulnerable local populations in the MID-URN target area.

***Regional Capacity.*** The proposed concept Watershed Management Program will take a holistic approach toward watershed management in the West. This project includes State, Federal and local partners to successfully implement this project as a model for other watersheds within Utah. The Weber River watershed is a resource to much of the Wasatch Front and Wasatch Back serving 21% of the population of Utah. This concept project will have regional and statewide input and impact.

Disasters do not recognize political boundaries; the Qualified Disasters in Utah affected many municipalities. As the State authority over housing and community development issues, HCD often supports efforts to address regional efforts including fair housing, economic revitalization, capital improvements and other projects carried out on a large, regional scale. The Department of Emergency Management does the same with Hazard Mitigation planning and projects. Ogden City consistently consults with adjacent communities regarding regional

planning and project efforts; especially with Weber County, West Haven City and Riverdale City, project partners. Due to this broad perspective, HCD and its partners have and will continue to consult with neighboring communities to implement solutions that will not create unintentional adverse effects—especially for vulnerable populations. A regional approach will ensure residents of the impacted area will have the benefit of the experience of state and regional partners with the knowledge and consideration of local partners and stakeholders.

**EXHIBIT D - NEED**

*Utah Division of Housing and Community Development*

ExhibitDNeed.pdf

## **FACTOR 2 NEED/EXTENT OF THE PROBLEM**

The MID-URN Target area for Utah's CDBG-NDR application is within the 2011 declared disaster area event within the Weber River Watershed in Ogden City, Weber County, Utah. The proposed Watershed Management Resilience Program for Utah will allow Utah to develop a model program that can be applied throughout the other seven vital watersheds within Utah. The Program will help Utah to build resilience, implement planning for future threats and climate change, engage the community stakeholders across the state and locally, and provide for investment and economic development.

**Subfactor: Unmet Needs.** The 2011 flood event caused significant damage to bridges, trails, the river channel, businesses, recreational facilities, and farm land. FEMA funding was provided for various repair projects along the Weber River in the MID-URN area (approximately \$10,415,180) and NRCS granted Weber County \$13 million with an additional \$4 million provided by the County for emergency watershed protection. However, the focus of the NRCS funding was to meet agricultural needs and only one project took place in the MID-URN target area. **These funds were millions of dollars short in helping to build long-term recovery for this area. It is important to note that FEMA and NRCS funding could only be used to return damaged areas to their pre-flood condition which may inevitably lead to even greater future damage, The funding could not be used to create resilience or to help repair to prevent future damage and high maintenance cost.** The unmet recovery needs are described in Exhibit B, page 6.

### **Subfactor: Most Impacted and Distressed.**

The MID-URN target area meets the thresholds of Most Impacted Characteristic in Environmental Degradation due the future remaining risks. The area meets the thresholds of



Most Distressed Characteristic in that it impacts mainly low- and moderate-income persons and is an area with prior documented environmental distress. These thresholds are described more fully in Exhibit B, pages 5-8.

**Risks and Data:** The State of Utah has a complicated relationship with water. In this arid climate, water and safety of Utah's watersheds is a key factor in sustaining communities, agriculture, and the economy. However, water can also create significant hazards in Utah as extreme snowfall and rainfall can trigger events ranging from avalanches to floods and landslides. The watersheds in Utah are the lifeblood that keeps the economy running which affects every aspects of life for Utah's residents.

The Utah Hazard Mitigation Plan identifies the following as major natural hazards that affect Utah: earthquake, flood, landslides (includes debris flows & rock falls), dam failure, wildfire, drought and severe weather. The State of Utah has received 11 major disaster declarations since 1983, six of those have occurred in the last ten years. Out of those six, five have been flooding events and three have occurred since 2010.

Envision Utah (EU) is currently in the midst of a statewide planning initiative called "Your Utah Your Future." For the past year EU has been meeting with experts on various issues Utahans will face as the population grows. One of the issues is disaster resilience. The team consist of over 30 experts from diverse backgrounds that have spent the past year identifying what threats and hazards exist state wide and what strategies the State could employ to minimize the vulnerabilities to those threats and hazards. Based on the input gathered from the team of experts, strategies were presented to the public in the form of an educational survey. Approximately 8,000 Utahans responded to the survey giving their input on these strategies.

The hazards and threats identified in this process were flooding, wild fires, landslides, earthquakes, climate change, and air quality. Because of the broad range of hazards and threats it is easy to assume that all populations are vulnerable in some way. However, it was evident to the Team that low-moderate income populations across the state were the most vulnerable as they are less likely to have the ability to make the needed and, often very costly, changes required to help them become less vulnerable (i.e. major housing retrofitting, relocating, etc.).

The effects of climate change have been evident in Utah's watersheds not only through flood events but also in forest fires, landslides, drought, and intense storms all of which impact the vital watersheds of Utah and its most vulnerable populations. Climate change shifts will make Utah's relationship with water potentially more challenging, with decreases in the winter snowpack that sustain public water supplies and increases in extreme rainfall events that cause flooding. The winter of 2014/15 is evidence of the impacts of climate change in Utah and will go on record as the warmest winter ever. With over 48 consecutive days of average temperatures nine degrees higher than normal since December 1, 2014 and higher elevation snow pack on the cusp of melting in March. Utah's long-term resilience depends on developing a sustainable relationship with climate change and water that maximizes water benefits and minimizes public hazards.

Climate change in Utah not only impacts the environment and weather but has a substantial impact on the health of the people of Utah. Respiratory health, increased allergens, heat-related injuries and foodborne illnesses all increase from higher temperatures, mild winters, and reduced precipitation. Research shows that pollen distribution may also be affected by a changing climate. Studies have shown that increasing temperatures due to climate change allow plants to pollinate earlier, ultimately creating longer pollen seasons. Carbon dioxide also

contributes to the pollen production. Higher concentrations of carbon dioxide in the air aids in increased pollen production. As more carbon dioxide is emitted into the atmosphere, it is suspected that pollen production will increase and contribute to the exacerbation of asthma and allergic diseases.

With climate change, impacts to health on the most vulnerable populations increases. For instance, adult asthma prevalence in Utah, by income, indicate that those with incomes of \$25,000 or less have a higher percentage (12.5%) of asthma prevalence then those making \$75,000 or greater (7.2%). Since 2001 the rate of asthma prevalence among adults age 18 and over has increased from 7% in 2001 to over 9% in 2013. Children have seen even greater rates of increase due to the higher pollen production resulting from higher concentrations of carbon dioxide in the atmosphere.

Many of the risks identified from climate change came from a number of reports and fact sheets produces by State and Federal agencies. One fact sheet entitled “What Climate Changes Means for Utah and the Southwest” indicated that Utah’s watersheds will be seriously impacted with snowpack and streamflow amounts projected to decline. Increasing competition for scarce water supplies will reduced crop yields and displace jobs. The increasing temperatures can cause increased warming, drought, and insect outbreaks. The major impacts to Utah’s watersheds are caused by or linked to climate change and have (and will continue to) increased wildfires and impacts to people and ecosystems in Utah.

This report also indicates that fire models project more wildfire and increased risks to communities across extensive areas. “Climate changes will increase stress on the region’s rich diversity of plant and animal species and flooding and erosion from extreme storms will add to these stresses.” Economic losses, are projected to increase, forcing changes to forest, landscapes,

and the communities that depend on them. Projected regional temperature increases, combined with the way cities amplify heat, will pose increased threats and costs to public health and safety and will intensify the threats to the State's vulnerable populations.

**Opportunity and Context:** The Weber River Basin Watershed is a geographic area of great concern in that it provides drinking and irrigation water for 21% of Utah's population, provides important environmental habitats and recreational opportunities that drive the economy of Utah. The 2011 Disaster Declaration included this important watershed and has help to determine the MID-URN target area for this application. This MID-URN target area is within Weber County and the City of Ogden. Ogden and communities upstream and downstream of the city were heavily damaged during the floods of 2011. Damages just within the MID-URN target area of Ogden City included damage to five business, two sewer lines, one water lines, multiple recreational parks and trails, seven bridges and extensive damaged to the river banks and important floodwalls within the Weber River near highly vulnerable populations and businesses. This damage totaled more than \$10,415,180. The impact of the floods has been a lasting long term recovery issue for the area and the vulnerable populations and business in the impacted area. Unrepaired damages to infrastructure and natural habitats continue to put the vulnerable populations and businesses just one good storm away from possibly devastating impacts. Our goal under this Watershed Management Resilience Program application is to leverage a range of investments, including investment of CDBG-NDRC funding, to accomplish integrated watershed management from the headwaters to the city and beyond to the outflow at Great Salt Lake. This integrated management approach can increase long term resilience by making future flooding far less likely and less impactful while bringing a host of other resilience benefits to the vulnerable population within the MID-URN target area.

Completing the work to repair still-damaged facilities in Ogden from the 2011 flood, including stream channels, flood walls, bridges, business property, and recreation facilities will have important direct benefits for resilience. These include reducing the likelihood of future localized flooding in this area, which includes 51 acres that have been identified by the city as desired sites for enticing new outdoor recreation manufacturers that can have a substantial impact on job opportunities for the vulnerable populations in the area. This recovery activity will also protect existing businesses, residents, and restore an important recreation tourism draw for the city, helping to build long-term diversification of the economy. Under this application we will be pursuing a holistic approach that will have added benefits to the community and the river ecosystem with design expertise to repair these remaining damages using the most innovative resilience designs available.

True resilience will need to reach beyond just the areas that remain damaged from the floods of 2011. Flooding has become a common threat in Utah with cost to property damage at \$736,643,155 as of 2011 with Weber County being one of the most populated counties in Utah having the highest total losses from flooding. Flooding in the Weber River Watershed is shown to have a cycle of every 30 years and has incurred cost of \$23,000,000. These flood risks are anticipated to escalate with climate change due to the temperature change, precipitation, and droughts which effects the hydrological cycle. “The changes to the hydrological cycle come as the temperature continues to increase, there will be more evaporation and consequently a greater amount of water vapor in the atmosphere. This increase in water vapor will produce higher intensity precipitation events even if total precipitation levels specific areas are decreasing (Utah Department of Health).” This increased flood risk is tied to factors that include the condition of upstream headwaters, some of which originate on the Wasatch-Cache National Forest, and the

land use and ecosystem health of riparian areas as the river descends into, through and beyond Ogden and its surrounding communities all the way to the Great Salt Lake.

The resiliency of the Weber River is tied directly to upstream watershed management practices. For the most part watershed management has been limited to date in the State of Utah. The healthy river is generally more resilient than one that is degraded. The first step in watershed management resilience is to have a plan. The right plan can go a long way in reducing risk and mitigating potential hazards. Graph 1.5 illustrates the impact that upstream management practices can have on the lower reaches of the watershed. In this graph it shows that extreme flood flows occur approximately every 30 years (1896, 1936, 1952, 1983, 2011). Prior to the construction of Echo Reservoir, an upstream management practice, peak flows reached 7,980 cfs. Between the construction of Echo and Wanship Dam (Rockport Reservoir) peak flows reached 7,600 cfs. Since Wanship was built peak flows have not exceeded 6,000 cfs, a 25% reduction in peak flows. Improved watershed management can reduce the potential risk even more. Proper watershed management can help reduce debris flows, reduce runoff, attenuate flooding, and improve water quality and habitat. A healthy watershed increases economic opportunities and reduces risk.

Our goal under this Watershed Management Resilience Program application is to leverage a range of investments, including investment of CDBG-NDRC funding, to accomplish integrated watershed management from the headwaters to the city and beyond to the outflow at Great Salt Lake. By using these three objectives: 1) developing best practices for the watersheds of Utah, 2) furthering safety for social and economic security, 3) adaption and promoting habitat considerations that are low maintenance and ecologically friendly. Our integrated management approach can increase long term resilience by making future flooding far less likely and less

impactful while bringing a host of other resilience benefits. To accomplish this integrated watershed management resilience and economic revitalization, our Phase I application details our approach and partners to accomplish the following integrated activities targeted to the MID-URN highest impact site and most vulnerable communities in the Weber River Watershed:

- Watershed management planning to help conserve headwater properties from development to avoid fragmentation of headwaters forests, and to promote more integrated management with other conservation lands surrounding water supplies and other public assets.
- Planning for how to restore fire-prone headwater forests, which will reduce the risk of rapid runoff from burned areas in the future and lessen air pollutants associated with forest fire.
- Planning and regulations to conserve high-risk riparian and floodplain properties as the Weber River transitions down into more populated areas, helping to lessen the amount of property and people at risk from future floods.
- Build resilience by restoring the river corridor, riparian forests and floodplain ecosystems within the MID –URN target area, helping these areas to hold more water in flood events and slow water flows.
- Within the MID-URN targeted area create green infrastructure, such as realigning channels, bio-stabilizing and berming drainage areas, developing wetlands, and catchment areas, to help protect property and people that are already settled in higher risk locations.
- Using proven resilience methods to create green infrastructure to buffer transportation assets, helping to maintain regional connectivity through flood events given that pedestrian, transit, freight, and other key roadways pass through this area.
- Provide economic development and technical assistance targeted to business development on well-buffered and resilient sites along the Weber River.

- Improve resilient features of built infrastructure that is already located in higher risk locations, such as helping home and business owners find resources and technical expertise to make their properties more flood-ready and resilient.
- Purchase of key watershed protection easements/property to facilitate mitigation/resiliency practices.

Our integrated approach to managing the Weber River Watershed will deliver myriad resilience benefits for Ogden and surrounding communities beyond the core benefits of improved public safety and avoided property losses from flood events. Specifically:

- **Vulnerable Communities:** Ogden is a community of many strengths, but it also is working to meet the needs of many vulnerable communities that are particularly hard hit by flooding and other extreme events, as well as the economic disruptions caused by disasters. More than 67% of the population in the MID-URN target area is in the low- and moderate-income category, 43.28% live below the poverty level, and 44.7% identify as Hispanic. The work under this proposal will place special priority on finding resilience investments that have direct benefits to these communities, using known best practices for planning, public involvement, construction, economic and health and safety principles.
- **Resilient Economy:** Many areas along the Weber River as it passes through Ogden and other communities have large tracts potentially appropriate for new business facilities, including sites with identified interest from manufacturers in the outdoor retail segment of the economy. This area is also a major draw for paddlers, hikers, runners, and other recreationists. The parks, trails, boat launches, and other recreation infrastructure along the Weber River are key to maintaining the attractiveness of Ogden and other local communities for residents, businesses, and tourists. Special effort will be made under this



proposal to align resilience investments with new economic development being catalyzed in this area.

- **Agriculture:** The Weber River has created some areas of rich agricultural soils along its floodplains. The 2011 flood event damaged or threatened over 14,500 acres of farmland. Restoration of riparian buffers within the MID-URN target area will help protect agricultural assets and this important sector of the economy.
- **Air Quality:** Declining air quality, driven largely by fossil fuel emissions and compounded by phenomena such as winter inversion, has become a major threat to public health and an impediment to attracting and retaining residents and businesses. Summer forest fires can contribute significantly to this issue during warmer months. Better management of the watershed's forests to lessen fire risk will help lessen this air quality impairment and enhance the region's long term resilience and the health of the vulnerable populations.

**Known unknowns.** We know that climate change is impacting Utah's health and economy. We do not yet know the extent of the economic repercussions regarding water supply, wildfires, flood, drought, landslides, storms and air quality. However because of the unknowns we feel it necessary to make every effort to better plan for known events using all of the best practices that will help start us on the road to resilience instead of waiting to see what comes. Acting now and preparing before an event is one of the major goals of this proposal.

**Insurance.** Utah has 212 communities that participate in the National Flood Insurance Program (NFIP) with Ogden City being one of those communities. Ogden City participate and requires the resident, commercial and industrial structures to participate in this program or mitigate the property to improve its flood prone situation. Ogden City and Weber County in general have shown that the frequency for flooding is every 30 years. Less than 1% of the properties located

within Ogden City in the 2011 declared disaster area are subject to the “one bite rule.” The City requires property owners carry flood insurance and Ogden City carries flood insurance on all of its property and structures located within a flood plain. However, insurance coverage does not address building in resilience. Insurance only allows repairing back to the pre-flood conditions. Pre-flood conditions and systemic implications are often times insignificant. By only repairing some of the damaged sites to their pre-flood conditions we may inevitably setting ourselves up for future damages, maintenance, human risk and expenses for the community. Addressing the unmet needs of the MID-URN target area secures the Ogden Business Exchange Project area which will provided much needed revitalization, jobs, and economic stability to this area. For example the impacts from the 2011 flooding to the Ogden Business Exchange included high water that destabilized the riprap, left the pedestrian bridges unstable, exposed gate structure footers caused failure to the boulder grade controls. Building this area to resilience will provide upstream controls and stabilize the banks for downstream grade controls to help protect the Ogden Business Exchange from future flooding and secure the area for new business and jobs for the MID-URN target area.

**Disproportionate Effects.** The 2011 flooding event put hundreds and thousands of people in danger of losing critical services, contaminating drinking water, damaging important environmental and instream habitats for the entire watershed. However for the MID-URN target area within Ogden City the risks were even greater for those who are considered vulnerable populations and businesses. In the MID-URN target area, more than 61% are LMI households with 44.7% identifying as Hispanic. The disaster particularly affected these groups as they have

limited transportation choices, language barriers, and limited recreational opportunities in their own community.

Within the flood area in Ogden there is a chemical plant located right along the river and rail yard that transports hundreds of tons of chemicals and fuels in trains that must cross the river. These two areas were highly impacted by the 2011 flood event. There remain serious public safety hazards if flooding of the chemical plant or railyard were to cause these toxic chemicals to contaminate the Weber River Watershed as it would putting drinking water in jeopardy. The environmental impacts could have detrimental effects to the important wetlands of the Great Salt Lake which in turn affects the economy of the entire state of Utah.

**Accessibility.** Many of the risks associated with the 2011 flood event limited access to various recreational sites, walking trails, sidewalks and/or other means of transportation (i.e. UTA bus stops, FrontRunner commuter rail, major arterial bridges and railway structures, etc.) that allowed for access to jobs, grocery stores, recreational activities or educational places for those with accessibility challenges. The ability to make these accesses resilient to flooding will significantly increase the capability for vulnerable population and those with accessibility challenges the opportunity to continually have use of recreational sits and access to transportation during future flooding events. Innovative access points to the River were included as part of the Ogden River Parkway Project to allow mobility limited individuals to enjoy the River and amenities. Similar concepts will be applied to the proposed CDBG-NDR project.

**Status and Barriers.** Steps that have been taken to address the risk from the 2011 flooding incident include hiring engineers and professionals to evaluate and give clear direction on what the damages and systemic problems are. These professionals have approached the flooding

issues on the Weber River with a system-wide approach listing deficiencies that need to be addresses and priorities that will benefit the community and the river ecosystem as a whole.

Ogden City coordinated and managed the portions of the disaster area that could be addressed based on the funding that was available from FEMA. However, because of limited funding much of the work was performed by city personal. The barriers to gaining full resilience include: limited funding associated with the FEMA guidelines and antiquated guidelines for estimating costs, limited planning for the management of upper reaches of the Weber River Watershed to help build resilience and funding to incorporate reliance within MID-URN target areas. FEMA funding will only allow for restoring the river back to pre-flood conditions which could lead to future risks. The antiquated cost estimates leave damages unrepaired and the City must continually maintain non-resilient facilities. This left the projects underfunded and fragmented.

The inability to fund projects that help develop a healthy river, maintain robust and resilient riparian habitats, and develop economic and recreational opportunities in the Ogden area have left it in worse shape than before pre-flood conditions. Since the 2011 assessment, there has been continued degradation to the point that more extensive repairs are now needed. Businesses, farms and residents deal with the impacts of the flood event still today and are in danger of having even greater damage incurred.

**EXHIBIT E – SOUNDNESS OF APPROACH**

*Utah Division of Housing and Community Development*

ExhibitESoundnessofApproach.pdf

### **FACTOR 3 – SOUNDNESS OF APPROACH**

**Outreach, Stakeholders and Consultation.** The Watershed Management Resilience Program intends to transition the watersheds of Utah into sustainable, protected, and maintained areas that will allow for economic and recreational opportunities, livability, and resilience. In the process of framing the Watershed Management Resilience Program CDBG-NDR application involved more than 30 experts to help us identify potential risks and disasters throughout the State and what areas, buildings, infrastructure, and people are the most vulnerable to these risks.

Envision Utah, for the past year has been meeting with experts on various issues that Utahans will face as its population grows. One of the issues is disaster resilience. They have, and will continue to, reach out to the public through town hall style meetings, on-line education and survey work. The current State planning project has already received input from over 8,000 people and has a goal of reaching 50,000 by the end of the two year process. As we continually engage with stakeholders and the public our proven process will help to build public support for the plans and projects that will be needed to make our communities more resilient.

Stakeholders on our team represent various interests and include representatives from Federal agencies such as, the Natural Resources Conservation Service (NRCS), Bureau of Land Management, and the U.S. Forest Service. We also have several stakeholders representing State agencies. These agencies are Division of Emergency Management, the Governor's Office, Housing and Community Development, and the Division of Forestry, Fire, and State Lands. Also included in our stakeholder group are various other experts representing research from the Utah Climate Center, Utah State University, and Envision Utah. The last subset of stakeholders that we have involved are local leaders and experts in Ogden: Ogden City Engineering and Public Works, Ogden City Economic Development, Weber County Engineering, Weber Human

Services. We have met with all of these stakeholders to help us identify the scope of the project, specific issues and challenges that should be addressed in watershed management to avoid, prepare for, and respond to disasters.

In Phase 2 we plan to use the stakeholder group more extensively to identify best practices in their areas of expertise and to set up a model for collaboration in creating and implementing comprehensive watershed management plans.

We have worked closely with Ogden City and Weber County to identify vulnerable populations within the MID-URN target area. Ogden provided documentation of feedback that they received from the vulnerable populations shortly after the disaster occurred. We will continue to reach out to these communities through various means so that they continue to have a voice in the process. A public hearing has been held to inform them regarding disaster resiliency, to review a draft application, and to incorporate public input into our concepts and ideas.

Ogden coordinated with local leaders and residents to employ emergency response during the disaster. Envision Utah has a proven track record of reaching out to a diverse array of groups and individuals to understand their perspective and needs. Because we began our discussions with an interdisciplinary team of stakeholders it was immediately clear that there were potential cumulative impacts from our risks. For example wild land fires near the head waters of the basin affect the amount of runoff and debris that goes in the rivers. The increased water and debris flows intensify flooding events downstream. Some of this speaks to how various lands within the watershed are managed to reduce risks such as wildfires and landslides.

On a broad level we have looked at the potential issue of contamination due to infrastructure failure in the event of a flood, landslide or earthquake. While we have not looked at specific sources, other than the superfund site, rail yard, and chemical plant that are near the

area of unmet need, we have identified issues of infrastructure failure and proximity to potential threats as an area of focus.

**Results of Collaboration:** It was through our collaboration that we began to understand the interrelatedness of the various hazards and threats that exist in Utah. Input from the stakeholders and projects partners helped us understand that a watershed management approach was the best way to integrate and plan for all types of hazards rather than addressing single hazards in a specific areas. We also understood from our citizen engagement that hazards more directly related to watershed management such as flooding and landslides were the most important for us to address.

As stated earlier Envision Utah is currently conducting a statewide planning initiative. This baseline of data, from the experts and citizens, was used as a basis for this grant proposal. Because of the broad range of hazards and threats it is easy to assume that all populations are vulnerable in some way. However, we came to the understanding that low-moderate income populations across the state are most vulnerable as they are less likely to have the ability to make changes that will make them less vulnerable if those changes require large expenses. We were able to identify ideas for new projects, new partners, and new risk that may have not been identified. The collaborative efforts are still in the works and will continue throughout the process.

**Data:** We have used data from the State Division of Emergency Management, scientists such as our State Climatologist, and other Federal and State management agencies. We have also used FEMA's Hazards model to understand the impacts of various disasters and will use his tool to measure the success of the implemented project.

**Concept for Resilience:** Work under this proposal has placed special priority on finding resilience investments that have direct benefits to the vulnerable communities, environmental



habitats, agriculture lands, and vulnerable businesses that are located along or near the Weber River. The concept for the Watershed Management Resilience Program is a multifaceted project that implements planning, collaboration, funding leveraging, and best practices for river restoration measures to improve stream health, habitats, functions, recreation, and economic development in a 3.9 mile stretch of the Weber River Basin Watershed in Ogden Utah. The idea is to construct in-stream habitat features and restore riparian, aquatic, geomorphic, and channel functions within the 2011 declared disaster area within the Weber River, thereby improving river health. This project will allow us to leverage and capitalize on the work that has recently been completed on the Ogden River and Weber Rivers. The Ogden River Restoration Project was a collaborative effort to reverse the effects of neglect that have evolved along the Ogden River. A multijurisdictional approach, including federal, state, and local levels, was established to make this project a success. By working together, all aspects needing attention were addressed. The project was successful and has created resilience, jobs, housing, and enticed a number of businesses to locate along this stretch of the Ogden River.

Ogden City worked with landowners to widen the channel at least five times greater than its degraded width. This widened channel was converted to a green space with interior floodplains, trails and access for the community. The improved channel conveyance also allowed for remapping of the 100-year Floodplain and moved the adjacent overbank properties into a lesser flood hazard zone and reduced flood insurance premiums. The strategy to balance nature with urban renewal was proven before the project was even completed as the most significant flooding since the installation of Pineview Reservoir occurred in 2011. Greater than 100-year flooding occurred as this project was under construction. The unfinished restoration conveyed the flood flows for 3 months as designed. The previously encroached channel did not have the

capacity for this flood event. Significant flood damage in the City was averted the first year of the project

**Project Ideas to Address Unmet Needs:** This concept project for the MID-URN target area within the Weber River will follow this same pattern used on the Ogden River. It will allow us to leverage funds for ecological and economic revitalization as well as funds from within a Redevelopment Agency (RDA) located within the 2011 declared disaster area. By leveraging these funds the City will be able to divert the funds that would have been required to stabilize the banks of the Weber River, within in the RDA area, to be used to build, rebuild and stabilize low to moderate housing located near the declared disaster area. More information on the leveraging of these funds can be found in Factor 4 Item b. Leveraging. Throughout the collaboration process the focus has been on three guiding objectives for resilience that will help meet the unmet recover needs, provide for public safety and environmental sustainability, promote recreational and economic opportunities and have the greatest impact on our vulnerable populations. These three objectives include: 1) developing best practices for the watersheds of Utah, 2) furthering safety for social and economic security, 3) adaption and promoting habitat considerations that are low maintenance and ecologically friendly.

Past efforts with the Ogden River Project included these three objectives and have proven to show resilience and recovery. With the 2011 flooding disaster, the Ogden River did not see any degradation or flooding in the area where the resilience project was developed. The Ogden River stayed within its channel and flowed and moved naturally even though the water was running 2150 cfs above its normal average peak flow rate for more than three months. The river kept within its channel and flowed continuously with no flooding damage of surrounding properties.

By using the same resilience methods that were used in this area of the Ogden River the engineers feel that we could also have long-term and/or permanent resilience in the MID-URN target area of the Weber River and achieve the objectives.

**Work Underway and Long-Term Resilience.** Ogden City has a number of programs in place to help build resilience in the MID-URN target area. They have been successful in completing a similar project on the Ogden River. The City has also invested thousands of hours and significant funding to develop this revitalized business area on the Weber River designated as the Ogden Business Exchange. This economic revitalization project includes funding from a number of sources, new business opportunities and jobs that will be within walking distance from the area's most vulnerable population. Investment in property, infrastructure, and RDA funding have all been set in place and will be enhanced by the river resiliency along the Weber River.

**Co-Benefits and Integrated Cooperation and Activities.** The Watershed Management Resilience Program will allow Utah to use this project as an example to other watersheds around the state to better understand the best ways to plan, manage, and incorporate best practices. The concept project allows for more resilience that can then allow for more business to develop and opportunities for more jobs for the vulnerable populations that are located in the disaster area. This concept project will help reduce the problems within the river for those communities both upstream and downstream from this project area. As the river channel is stabilized, cleaned and redirected the energy from the river is absorbed so as to stay within the channel and not back up and block the movement of the water for the cities above or below this area.

The partners for the Watershed Management Resilience Program have committed to participate in the planning, designing, and building resiliency and supporting the activities of the program. Please see Exhibit G.

**Approach to Resilience and Climate Change:** The three objectives listed previously give us direction for our approach to resilience. By using the same resilience methods that were used in the Ogden River Restoration Project we can also have long-term and/or permanent resilience in the MID-URN target area of the Weber River and achieve the objectives. Climate change considerations are key to the decisions that have been made in forwarding this concept project. The planning of the watersheds management will be based on better understanding the effects of climate change on all areas of the watersheds, i.e. debris in the river from wild fires, landslides and severe thunderstorms.

**EXHIBIT F - LEVERAGE**

*Utah Division of Housing and Community Development*

ExhibitFLeverage.pdf

## **FACTOR 4 – LEVERAGE AND OUTCOMES**

### **Outcomes.**

**Approach.** Improvements made under the Watershed Management Resilience Program are expected to last a minimum of 50 years based on engineers' estimates and historic use. The planning efforts and lessons learned will benefit future efforts for generations.

**Infrastructure Solutions.** The green infrastructure and bio stabilization strategies used in the proposed concept project require minimal maintenance and restore and benefit fish and wildlife habitats. This approach will also increase permeable surface to accommodate excess river flows and provide the co-benefits to recreational facilities, trails, economic revitalization, commerce and transportation.

### **Financially Sustainability and Vulnerability.**

*How can your idea be implemented in an environmentally and financially sustainable way?*

*Environmental Sustainability.* A strong emphasis of the proposed project is the environmental health of the riparian habitats along the river. Green infrastructure and bio stabilization will be used to bring resilience in an environmentally-responsible way. In project implementation, a full environmental review process will occur.

*Financial Sustainability.* The Ogden Business Exchange project will revitalize 51-acres of blighted property and bring economic revitalization to the area. Recent analysis shows that this property is not in the flood plain. Berming and stabilization of the river will provide the protection necessary to encourage businesses to locate in this currently economically distressed area. This will bring quality job opportunities with walking access to LMI communities.

## **Success and Evaluation Factors**

***Vision of Success.*** HCD and its partners have a vision of the project that includes all watersheds in Utah being better prepared for climate change risks, hazards and vulnerabilities. As a pilot project, the Weber River Restoration will serve as an example to watersheds within the State of Utah and others in the West. In the MID-URN target area our visions include business coming to the blighted area, local residents having access to jobs by walking on new trails and the local vulnerable population have access to recreation amenities in their own community. Partners will come together with community leaders and residents to coordinate implementation of the project concepts. Local disadvantaged youth will have job opportunities in environmental restoration through the Utah Conservation Corps program.

***Measuring Success.*** To measure the success of the resilience efforts the State DEM will develop an After-Action Report including a Loss Avoidance Study conducted under FEMA standards. The DEM will use FEMA's Hazus Model in developing this report.

Habitat restoration improvements will be documented by the Utah Division of Natural Resources Habitat Council.

The economic success of the Ogden Business Exchange will be identified in the number of businesses that open in the area, the number of jobs created and the increase in the quality of the jobs.

User ship estimates will be used to measure the success of the recreation facilities that will be repaired or developed to resilience under this project.

### **Leverage.**

HCD, Ogden City and its partners have gathered funding support from various sources: FEMA, private foundations, City funds, Weber County RAMP, RDA funds and others. The CDBG-NDR

funding allows HCD to take a holistic approach to leverage funding from these partners with diverse objectives to create overall resilience along the Weber River and surrounding disadvantaged areas.

### **Partners and Resources**

HCD will work with its local partner, Ogden City, to implement the proposed project through planning, development, and construction. Ogden City will work with the Utah Conservation Corps to employ local disadvantaged youth in completing restoration activities and possibly maintenance responsibilities. Upon completion, Ogden City will manage and oversee maintenance responsibilities.

### **Co-Benefits and Funding**

*Recreational Co-Benefits.* All purchases made in Weber County include a 1% sales tax that generates the funding for the RAMP Program (Recreation, Arts, Museums, Parks). RAMP has committed to contribute \$140,000 to the Whitewater Play Park element of the proposed NDR project. This park may attract visitors from surrounding areas and even neighboring states. Therefore, this project will help perpetuate recreational facilities throughout the area.

The Serge-Simmons Ballfield Complex is a public park facility that also generates revenue for the City in rentals and ticket sales. The resilience improvements made as part of the proposed project will prevent further damage to this facility and have it continue to bring money into the LMI area for public uses. The recreational facilities will bring visitors to the area to stimulate the local economy.

Many parks and trail systems were damaged in the MID-URN target in 2011. FEMA funding was used to make repairs to the city-operated Serge-Simmons Ballfield Complex at Fort Buenaventura and a small trail repair (\$4,000). But this funding source only allowed it to be



returned to pre-disaster conditions – not to create resilience. The NDR investment would create resilience to allow the City to invest in providing other recreational facilities to vulnerable populations rather than investing in recurring repairs at at-risk facilities.

*Storm Water Co-Benefits.* Another co-benefit of this project is that it will reduce the strain on the City's storm water collection system and help improve water quality. It will also free up those City resources to invest in other infrastructure needs.

*RDA Co-Benefits.* RDA funds previously committed to make resilience improvements to the Ogden Business Exchange can instead be used to renovate low- and moderate-income housing in the area.

#### **Financial Commitment.**

HCD has cash commitments of over \$1,069,000 from the following sources:

Weber County RAMP	\$140,000	Rebuild Whitewater Play Park
Ogden City	\$87,000	
Ogden City RDA	\$100,000	
FEMA	\$742,000	Disaster repairs (in addition to FEMA \$ already spent)

**EXHIBIT G – LONG-TERM COMMITMENT**

*Utah Division of Housing and Community Development*

ExhibitGLongTermCommitment.pdf

## **FACTOR 5 - REGIONAL COORDINATION AND LONG-TERM COMMITMENT**

Disaster mitigation and resilience has been a priority for officials at the state, regional and local levels. The State DEM recently completed the 2014 Hazard Mitigation Plan to address risks from flooding, landslides, wildfires, drought and more. Weber County has actively worked to repair the damage from the 2011 flooding with the NRCS emergency watershed protection program. Ogden City has worked with FEMA to perform repairs, hired engineers to assess the damage and prioritize and recommend improvements, and have worked to increase the economic resilience in areas with high percentages of low- and moderate- income persons. These jurisdictions will take these actions further and make long term commitments to resilience within 12 months of award of the CDBG-NDR.

**State Commitments.** The State Department of Emergency Management (DEM) has committed to amending its 2014 Hazard Mitigation Plan to include an element addressing the risks of climate change in the State. DEM has also committed to contact 100% of the counties in the State to ensure that they are aware of the new plan and educate them regarding what steps can be taken to improve resilience in their respective areas. The DEM has a goal to receive letters of commitment from 50% of the counties stating that they commit to take the actions outlined in the 2014 Hazard Mitigation Plan specific to their community. The State DEM also commits to presenting legislation to the State Legislature to require local jurisdiction to create and maintain Hazard Mitigation Plans.

**Regional Commitments.** Weber County has been pro-active in its pre-disaster mitigation efforts. The County commits to update its 2009 Pre-Disaster Mitigation Plan before the end of 2015 using FEMA Pre disaster Mitigation funding. The County's prior plan was broad in its

approach as it included other large counties (Davis, Morgan, Tooele, and Salt Lake). The new plan will be specific in addressing the needs, risks and hazards occurring in Weber County.

**Local Commitments.** Ogden City commits to update its general plan to add an element for hazard mitigation and a resilient action plan based on the information from the 2014 Utah Hazard Mitigation Plan. This will align the State and Local plans.

Ogden City also commits to use RDA funds to develop the Ogden Business Exchange (OBE) Project along the Weber River and put the necessary infrastructure in place with the goal of bringing at least one business into the OBE by March 2016. The OBE will take 51 acres of land out of blight and slum and give convenient access to job opportunities to the disadvantaged populations in the target area.